

Columbian White-tailed Deer

(*Odocoileus virginianus leucurus*)

State Status: Endangered, 1980

Federal Status: Endangered (1967; Columbia River Distinct Population Segment-2003)

Recovery Plans: Federal, 1983

White-tailed deer are generally distinguished from mule or black-tailed deer by their longer tail that is brown rather than black on the dorsal surface, and in adult males, antlers with prongs arising from a single main beam. The Columbian white-tail is a large subspecies with antlers narrowly spreading and curving steeply upward (Figure 1). In a study in western Oregon, Columbian white-tailed and black-tailed deer had similar diets but maintained spatial separation during most seasons and tended to avoid each other (Whitney et al. 2011). The Columbia River population evolved as a riparian species, occupying the floodplain while black-tailed deer inhabited the forested foothills above the floodplain (Gavin 1984). Habitat changes over time affected the riparian habitat, and urban and agricultural areas now limit population expansion. Columbian white-tailed deer were once found in a contiguous area in southwestern Washington and western Oregon (Figure 2), but now exist in two distinct, geographically isolated populations: in Douglas County, Oregon, and along the lower Columbia River (USFWS 1983). The Douglas County population in Oregon recently achieved recovery objectives and was delisted from the federal Endangered Species Act in 2003 (USFWS 2003). The Columbia River population is found on islands in the Columbia and adjacent areas of Clark, Cowlitz, Pacific, Skamania, and Wahkiakum Counties, Washington, and Clatsop, Columbia, and Multnomah Counties, Oregon (Figure 3).

Population status. Recovery objectives for the Columbia River population are to have a minimum of 400 deer, with at least three subpopulations of 50 individuals or more in secure habitat (USFWS 1983). Secure habitat is that which is free from adverse human activities. Currently, two subpopulations of ≥ 50 individuals qualify as secure, the Julia Butler Hansen National Wildlife Refuge (Refuge) mainland and Tenasillahe Island. Two additional subpopulations of at least 50 individuals exist (USFWS and WDFW 2011) at Westport, Oregon, and Puget Island, Washington, but these occur predominately on private ownership that is not considered secure habitat.

The Refuge mainland subpopulation has experienced a significant decrease in size since a peak of an estimated 500 deer in 1986 and 1987. The drop was initially welcomed, as the population probably exceeded the Refuge's carrying capacity. Numbers subsequently fell below the desired goal of 125 deer, to a low of 59 in 2007. Current total numbers of the Columbia River population are estimated at roughly 600 deer (Table 1). Overall, the population still needs to attain a third subpopulation of ≥ 50 to reach recovery plan goals. However, compounding factors, including high predation on fawns, vehicle collisions, disease, flooding events, and hybridization with black-tailed deer, affect the population and



Figure 1. Columbian white-tailed deer (photo of buck by Joseph V. Higbee).



Figure 2. Historical range of the Columbian white-tailed deer (USFWS 1983).

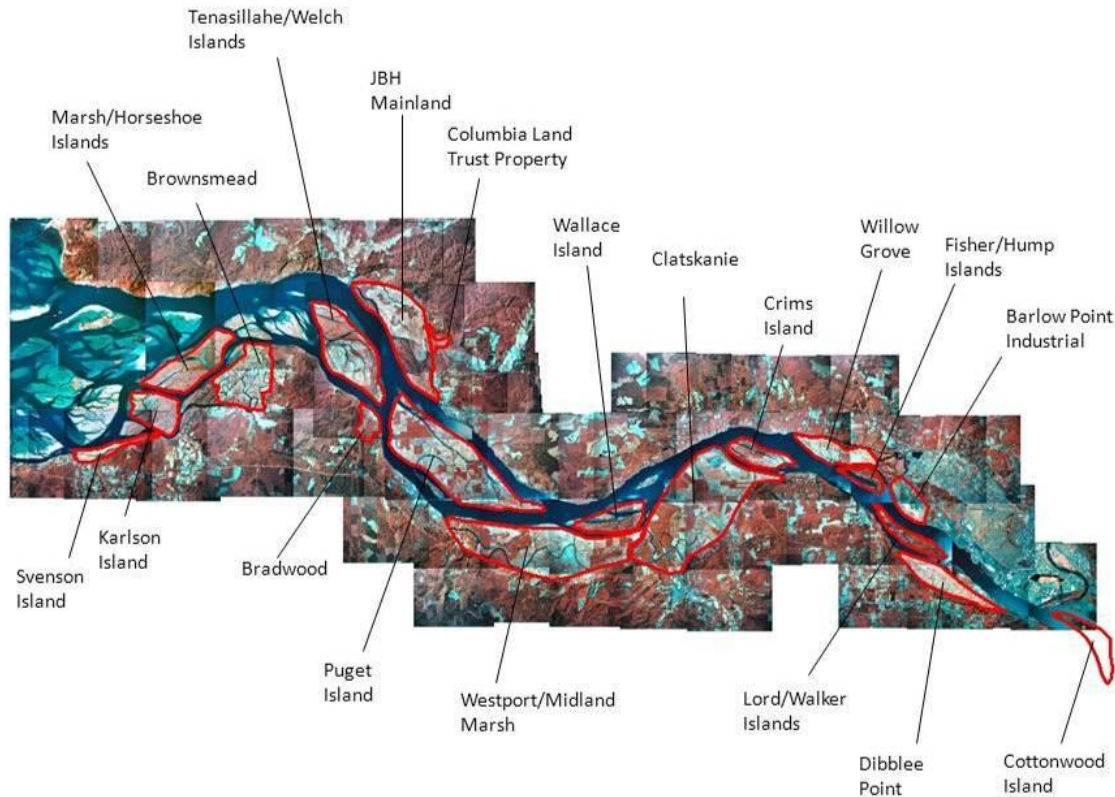


Figure 3. Current range of the Columbia River population of Columbian white-tailed deer along the lower Columbia River (USFWS and WDFW 2011).

have continued to limit recovery (Clark et al 2010, USFWS and WDFW 2011).

Translocations. Recovery actions have involved securing habitat through acquisitions, translocations to augment existing populations and establish new populations, and habitat enhancement on the Refuge. The USFWS identified a series of islands near Longview, Washington, for a third secure subpopulation. These islands include Fisher (225 ac), Hump (100 ac), Lord (500 ac), and Walker (109 ac). A total of 66 deer have been translocated there to date. Since translocation, these islands have supported 10–14 animals, with the most current estimate at 10. Sixty-one deer were translocated to Crims Island between 1999-2006 (Table 2). This site has supported between 8 and 33 deer since 2000, with the 2011 estimate at 18 animals. The upper estuary islands (Lord/Walker, Fisher/Hump, and Crims) have so far failed to maintain the target population of 50 deer. In 2010, the Cowlitz Indian Tribe moved 15 deer to Cottonwood Island, an area also listed in the Recovery Plan as a potential relocation site (USFWS 1983, Cowlitz Tribe of Indians 2010).

Table 1. Estimates of Columbia River subpopulations of Columbian white-tailed deer, 2011.

Site	Population estimate
Julia Butler Hansen Refuge mainland ^a	83
Tenasillahe Island	90
Puget Island	171
Crims Island	18
Lord/Walker and Fisher/Hump islands	10
Cottonwood Island	3
Wallace Island/Westport	-
Nelson Creek	-
Total	603^b

^aIncludes Hunting and Price islands.

^bIncludes estimates from residual populations in Clatskanie Flats, Brownsmead, Willow Grove and Barlow Point.

In 2006, translocation efforts began to augment the declining Refuge mainland subpopulation. Deer were relocated from Puget Island in 2006, Westport, Oregon, in 2009, and Tenasillahe Island and Roseburg, Oregon, in 2010. Consistent coyote predation and significant flooding events in 1996, 2006, and 2009 have been partially implicated in the decline of the Refuge mainland subpopulation, which currently supports about 83 deer. Of these translocation efforts, Tenasillahe, Crims, and the Refuge mainland have shown the most success (Table 2). The USFWS is also actively restoring Refuge habitat to establish cover and provide forage for deer.

Partners and cooperators:

USFWS-Julia Butler Hansen
National Wildlife Refuge, Cowlitz
Tribe of Indians, Oregon
Department of Fish and Wildlife,
Oregon State University.

Table 2. Summary of land acquisitions and translocation activity for secured CWTB habitat.

Site Name	Acres	Year Secured	Translocations	
			Year	No. of deer
Refuge mainland ^a	2,823	1972	2006	5
			2009	20
			2010	8
Tenasillahe Island	1,919	1972	1986	19
			1987	19
			1988	21
Crims Island	730	1999	1999	27
			2000	29
			2006	5
Lord/Walker Island	609		2003	16
			2004	8
			2006	9
Fisher/Hump Island	325		2003	12
			2004	11
			2006	10
Cottonwood Island	650		2010	15
Wallace Island/Westport	725	1995	NA	
Willow Grove	304	2008	NA	
Nelson Creek	423	2008-2011	NA	
Total	8,508			234

^aIncludes Hunting and Price islands.

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